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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,419

11/21/2003

Mark E. Tuttle

MICRON.248DV1

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03/22/2005

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EXAMINER

HOANG, QUOC DINH

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,419

Applicant(s)

TUTTLE ET AL.

Examiner

Quoc D. Hoang

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-14, 17 and 19-24 is/are rejected.
- 7) ☒ Claim(s) 4, 15, 16, 18 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Amendment filed on 1/3/2005 has been entered and made of record as Paper No. 0305. Claims 1-25 are pending in the application.

Applicants' remarks have been considered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-14, 17, and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst et al (U.S. Pat 5,939,772) (hereafter Hurst) in view of Featherby et al (U.S. Pat 6,455,864) (hereafter Featherby).

Regarding claims 1 and 20, Hurst teaches a method of magnetically shielding a semiconductor die, comprising: forming a molded housing 10 around the semiconductor die 20 (col. 2, lines 1-35 and Fig. 1); and applying a preformed film of magnetic shield material 36 to at least one outer surface of the molded housing 10, the film being approximately parallel to a major surface of the semiconductor die 20 (col. 2, lines 1-35 and Fig. 1).

Hurst does not teach the molded housing is an epoxy molding.

Regarding claims 1 and 20, Featherby teaches package 13 composed of plastic material or ceramic material (col. 6, lines 35-40 and Fig. 1). At the time of the invention

was made, it would have been obvious to a person of ordinary skill in the art to combine the molding epoxy package teaching of Featherby et al with Hurst's ceramic package, because it would have provided flexible characteristic of the package as taught by Featherby et al, column 6, lines 20-40. Also, regarding claim 20, Hurst teaches a preformed film of magnetic shield material 36. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to select a preformed magnetic shield film so that the thickness of the film is depended on the strength of the magnetic field since it was known in the art that the magnetic shield needs to be thicker to block the stronger magnetic field.

Regarding claims 2, and 5, Featherby teaches forming a molded housing 13 comprises encapsulating a plurality of semiconductor dies (col. 5, lines 14-20); and applying magnetic shield film 30/31 to both a top outer surface and a bottom outer surface of the molded housing 13 (col. 6, lines 30-50 and Fig. 1).

Regarding claims 6-9, Featherby teaches the whole molded housing 13 is plastic (col. 6, lines 30-50 and Fig. 1); and bonding wires between the semiconductor die and electrical traces on the plastic substrate after the semiconductor die is attached to the plastic substrate and before forming the molded housing 13 (col. 6, lines 30-50 and Fig. 1).

Regarding claim 10, Featherby teaches applying the preformed film of magnetic shield material 30/31 to at least one outer surface of the molded housing 13 comprises attaching the film to the molded housing 13 with a suitable adhesive (col. 6, lines 45-50 and Fig. 1).

Regarding claims 3, 17, and 21, Hurst teaches wherein the at least one outer surface of the molded housing 10 comprises a recessed region 32, into which region the preformed film of magnetic shield material 36 is applied (col. 2, lines 1-25 and Fig. 1).

Regarding claim 11, Hurst teaches wherein the magnetic shield material 36 is selected from the group consisting of Mu metal and permalloy (col. 1, lines 20-30).

Regarding claims 12-14 and 22-24, Hurst teaches applying the magnetic shield material 36 is conducted after all high temperature processing (col. 2, lines 1-25 and Fig. 1).

Regarding claim 19, Featherby teaches wherein forming a unitary molded housing 13 (col. 5, lines 14-20);

Allowable Subject Matter

4. Claims 4, 15, 16, 18, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: forming a recess including overhanging tabs such that applying the preformed film of magnetic shield material further comprises using the overhanging tabs to mechanically retain the preformed magnetic shield material within the recess.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quoc Hoang whose telephone number is (571) 272-1780. The examiner can normally be reached on Monday-Friday from 8.00 AM to 5.00 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone numbers of the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Quoc Hoang
Patent examiner/AU 2818



David Nelms
Supervisory Patent Examiner
Tech. 630